

REMARKS

Claims 1, 3, 5, 11, 16-18, 20, 25-37 and 39-48 are in this application and are presented for consideration. By this Amendment, Applicant has amended claims 1, 16, 25 and 28. Applicant has also canceled claim 38. Applicant has added new independent claim 48.

Claim 38 has been objected to under 37 CFR 1.75(c) as being of improper dependent form for failing to limit the subject matter of a previous claim. The Office Action states that claim 38 is an exact duplicate of claim 37. Applicant has canceled claim 38.

Claims 20 and 28 have been objected to because of minor informalities. Applicant has amended claims 20 and 28 paying close attention to the Examiner's remarks. Applicant would like to thank the Examiner for the helpful remarks.

The Office Action states that all related applications should be disclosed for purposes of possible double patenting rejections. The Office Action further states that application number 11244114 contains at least one common inventor and could be used to reject the present application on provisional obviousness double patenting if disclosed as a related application. It is Applicant's position that application number 11244114 contains at least one common inventor and is related to the same field of invention as the present invention. However, application number 11244114 is directed towards a different invention than the present invention.

Claims 1, 3, 5 and 25 have been rejected under 102(b) as being anticipated by Hallon et al. (US 4,751,928).

The present invention relates to an electrode belt for electrical impedance tomography. The electrode belt comprises a belt material. Sixteen (16) or more electrodes are on the belt material. The belt material is elastic in some sections so that the electrode belt fully surrounds a test subject to be examined over the circumference of the body. The fact that the belt material is elastic in some sections advantageously allows for a comfortable fit of the belt around the circumference of the test subject's body. The present invention further comprises electrode feed lines. The electrode feed lines are integrated within the belt material such that the length of each electrode feed line extends within the belt material. This advantageously allows for an orderly positioning of electrodes. However the tube feed lines are in a stretchable structure. More electrodes can be easily connected to the belt so that there is an improvement in the imaging and monitoring process. This also avoids the problem of having a tangled mess of wire, which allows for a more comfortable test experience for the test subject. The present invention also includes an external feed line. The electrode feed line is connected to the external feed line at one or more feed points along the belt material. This advantageously unites the electrode feed lines at a central point in order to establish one or more connection points to an external feed line. This advantageously avoids a tangled wire mess since each electrode does not have to be individually connected by a feed line. The prior art as a whole fails to provide such features or advantages.

The present invention solves the problem of providing a stretchable electrode holding belt that fits comfortably around the circumference of a test subject's body. The prior art as a whole fails to deal with the problem of feed lines in a stretchable structure. Applicant has

discovered that integrating electrode feed lines within the belt material and providing feed lines in a stretchable structure provides significant advantages for set up and use. The present invention advantageously provides more comfort to the test subject while sampling a greater area of the test subject. The prior art as a whole fails to surround the circumference of a patient, which disadvantageously leads to less accurate results and a poorer sampling of readings. In particular, Hallon et al. discloses a fastening belt that merely lays across the chest of a patient and fails to address the problem of feed lines in a stretchable structure. The prior art as a whole merely covers patches of areas of a patient's body and fails to fully surround the circumference of the patient's body, which disadvantageously leads to less accurate results. The feed lines in a stretchable structure of the present invention advantageously makes it easier for a patient to attach the belt without having to individually connect each electrode. The prior art as a whole fails to provide such advantages as to use and set up.

Hallon et al. discloses an electrode of a multielectrode system 13 that comprises a resilient contact body 1 which is inserted into an electrically conductive tube 2. The contact body 1 is fastened at the lower part of the tube 2 by a thread. A pin 3 of insulating material is inserted into and fixed to the tube 2 at the top. An electric conductor 7 is fixed to the tube 2. Insulating inserts 4 for supporting electrodes are fixed permanently to the elastic holder 6. The elastic holder 6 of the multielectrode 13 is composed of two rubber plates placed one on the other which are fastened by glue. Spaces are provided for passage of conductors 7 leading from individual electrodes. Clamping means 5 are provided on the insulating inserts 4 to secure the position of the electrodes with respect to the elastic holder 6. The holder 6 is provided with

a socket 16 connecting all conductors 7 leading from individual electrodes. The socket 16 is fixed on one side of the multielectrode 13. A fastening belt 8 is provided to maintain the multielectrode on site.

Hallon et al. fails to teach or suggest the combination of an electrode belt that fully surrounds the circumference of a test subject. As shown in Figure 3, Hallon et al. suggests that the multielectrode system merely lays across the chest of a patient. The present invention takes a different approach, by providing an electrode belt that fully surrounds the circumference of a test subject. This is significant because it advantageously provides more accurate results and a better sample of readings in the present invention. This also is convenient and efficient as to using and setting up the electrode belt. Hallon et al. discloses a multielectrode system that merely covers patches of areas of a patient's body and fails to fully surround the circumference of a patient's body as in the present invention.

Hallon et al. further fails to suggest or provide any motivation to provide electrode feed lines that extend along the belt structure or are integrated within the belt material as recited in claims 1 and 25. At most, Hallon et al. teaches that the electrode is supported in an elastic holder 6 of the multielectrode composed of two rubber plates glued to one another with spaces defined for passages of conductors 7 leading from individual electrodes (Column 2, lines 23-30). A fair reading of Hallon et al. is that it discloses that the conductors 7 do not extend within electrode holder 13. In contrast to the present invention, Hallon teaches that each conductor 7 is placed in the electrode holder 13 and is individually connected outside of the electrode holder 13. The present invention takes a different approach by providing electrode feed lines

that are integrated in the belt material such that the length of each electrode feed line passes within the belt material. This is significant in the present invention because it avoids the tangled mess of wires created by the Hallon et al. device and provides for easier patient use and set up. As best seen in Figure 1 of Hallon et al., the length of the conductors 7 are not integrated within the belt material and instead pass outside of the electrode holder 13 altogether. As such, Hallon et al. teaches a different approach and fails to suggest the features of claims 1 and 25. Accordingly, Applicant respectfully requests that the Examiner favorably consider claims 1 and 25 as now presented.

Claim 11 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Hallon et al. in view of Kristbjarnarson et al. (US 6,461,307).

Although Kristbjarnarson et al. teaches a disposable sensor for measuring respiration, the references as a whole fail to suggest the combination of features claimed. Specifically, Hallon et al. fails to teach electrode feed lines that extend within the electrode holding belt. The references do not suggest the invention and therefore all claims define over the prior art as a whole.

Applicant has added new independent claim 48 according to the allowable subject matter noted in the Office Action. Specifically, claim 48 is a combination of features found in claims 1 and 16. It is Applicant's position that claim 48 is allowable as presented.

Further action on the merits is requested.

Respectfully submitted
for Applicant,



By: _____
John James McGlew
Registration No. 31,903
McGLEW AND TUTTLE, P.C.

JJM:BMD
71186-11

DATED: January 8, 2007
BOX 9227 SCARBOROUGH STATION
SCARBOROUGH, NEW YORK 10510-9227
(914) 941-5600

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